

**TECHNICAL REVIEW DOCUMENT
FOR MODIFICATION
OF
OPERATING PERMIT 95OPMR050**

Western Sugar Company - Fort Morgan Facility
Morgan County
Facility ID 0870001

November 12, 2000
Michael E. Jensen

1. Purpose

This document presents background information relating to the changes made to the permit during this modification.

2. Construction Permit Short Term Limits

On April 16, 1998 the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction permits. These procedures are being directly implemented in all operating permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the construction permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling 12 month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting hours of operation.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit. without applying for a revision to this permit or for an additional or revised Construction Permit.

3. Powdered Sugar Production

In the preparation of Construction Permit 96MR0006 a number of point sources were incorporated by grouping. These sources have separate emission points and there is variation in the sugar dust removal efficiency of the process control equipment. The removal efficiency of the control equipment is based on the manufacturer's guaranteed emission level and the expected challenge level of the inlet air stream. Previously the sugar industry used a challenge level of 1 grain/acfm. The industry has now moved to the use of a 5 grain/acfm challenge level to represent the worst case scenario.

It should be noted that the control equipment provided for these point sources, as well as the silo storage, conveying, transferring, and air displacement, is provided per the NFPA life/safety code requirements, as well as for product recovery. The NFPA provisions mandate the sugar dust control equipment be operated whenever the process is operated, making the control equipment an integral and vital part of the process. Current Division guidance for APEN and permitting requirements related to "uncontrolled actual emissions", and EPA guidance for determining the Potential To Emit (PTE) for these sources, allows the emissions calculations to recognize the benefit of the control devices.

4. Powdered Sugar Production Emission Factors

Western Sugar's operating experience indicated the existing control system for the powdered sugar line was not controlling the sugar dust emissions as desired to satisfy the requirements of the NFPA life/safety provisions. Improved dust control could be achieved by adding an additional dust control device and establishing additional dust pickup points along the production line. The existing control device would continue to control the emissions from the fine granulated sugar packaging line. Additional pickup points may be added in the future as necessary. Based on a worst case scenario, an emission limit of 2.30 tons per year was requested for the new control device. The following table summarizes the changes made:

Source	Production Rate, Tons per Year	Emission Rate Pounds/Ton	Permit Limits PM10, TPY
Powder Mill	66,000	0.09545	3.15
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Packer	66,000	0.01727	0.57
Warehouse	66,000	0.002545	0.08
Starch	66,000	0.001210	0.04
Selected Powdered Sugar	66,000	0.06970	2.30
TOTAL	66,000	0.2816	9.29

The Title V permit inadvertently failed to include the sugar production total established in Construction Permit 96MR006. This applicable requirement was included with this modification. The table above is provided for reference to the emission factor and the permitted limits for each point.

The high removal efficiencies for the control devices called into question the emission of both total particulate and particulate matter smaller than 10 microns (PM₁₀). The high removal efficiencies make it unlikely that total particulate matter would be emitted. The emissions limits in the permit were modified to reflect that the particulate emissions are PM₁₀.

5. Construction Permit Exempt/APEN Required Sources

The 10.46 MMBtu/hour natural gas fired boiler has nitrogen oxide emissions greater than the APEN reporting threshold, but below the threshold requiring a Construction Permit. The estimated actual emissions for a calendar year must be reported for annual fee payment. The associated applicable requirements had inadvertently not been included in the previous versions of the permit and were included during this modification.

Mass balance calculations by Western Sugar identified the release of ammonia emissions of approximately 32 tons per year. A large amount of the ammonia emissions seems to be related to the washing of the beets and beet material. After reviewing the process the Division is identifying the emissions as facility wide emissions as opposed to point source. Ammonia is a State-only non-criteria reportable pollutant classified as a Bin C chemical in Appendix A of Regulation No. 3. The APEN reporting thresholds for Bin C chemical are 1000, 2500 and 5000 pounds per year. The reporting of the ammonia emissions has been included in this section of the applicable requirements of the Title V permit with this modification.

6. Wording Modification

The wording of permit Conditions 4.2.2, 5.2.2, 6.2.2, 7.2.2 and 8.2.2 was modified to clarify that monthly Method 9 observations would be necessary if a routine Method 9 observation exceeded 10% opacity.

7. Short Term Limits

As noted at the start of this review document, new procedures resulted in the removal of short term emission and production/throughput limits from Construction Permits. The table below documents existing short term Construction Permit limits that were removed from the Operating Permit in accordance with the new procedures

Construction Permit	Emission Point	PM, lb/hr	PM ₁₀ , lb/hr
96MR006	Powdered Sugar Production	3.88	1.69